



Indian Institute of Technology Madras
Office of Alumni and Corporate Relations



**Celebrating Your
Generosity of**

**Shri T.T. Jagannathan
& Family**

Impact of your Giving in 2023

Director's Message

Greetings!

IIT Madras continues to retain her top position for the eighth consecutive year, in the National Institute Ranking Framework, thanks to the world-class research of its faculty and students. The contribution and support of *Alumni and well-wishers like you* has crucially helped this standing and stature. Our achievements in research, education, innovation and entrepreneurship have also earned us the recognition of an 'Institute of Eminence' as well as the top position in the Atal Innovation Ranking from the Government of India.

The institute is making an indelible mark with her '*research with impact*' in several areas including quantum computing, drinking water technology, industrially relevant mathematical models for governance, rendering cancer-cure more effective. Our centres of excellence, the Center for Innovation, *Nirmaan* – the pre-incubator, the Incubation Cell, technology centres such as '*IITM-Pravartak*' and others, work in unison for not just *our* nation's building, but societies *world-wide*. We aspire to be locally impactful and globally relevant through all these efforts.

Towards exploring new research frontiers, a Department of Medical Sciences and Technology has been launched to conjoin medicine and engineering. Similarly, a School of Sustainability is on the horizon to research sustainable practices in the Global South. The campus is moving towards 'carbon-net-zero' goal through water conservation by 100% recycling, efficient garbage disposal, and electrification of vehicles. The traditional education system is undergoing a paradigm shift, with our online Bachelor of Science programme in Data Sciences and the National Program of Technology Enhanced Learning, that have won Gold in the 'Lifelong Learning' category and Silver in the 'Best Online Program' category of the Wharton-QS Reimagine Education Awards 2022 respectively. IIT Madras is leading this revolution from the front.

Such achievements are not possible without the deep-rooted faith and support of alumni and well-wishers such as yourself. We are indebted to you for your generous, bountiful, and impactful contributions. On behalf of IIT Madras, I offer you our deepest gratitude for continuing to strengthen the Institute. Together with your support, we are confident of building an IIT Madras that is more inclusive, diverse, and enabled by an ecosystem to be nationally relevant and globally recognised. Thank you!



Prof. Kamakoti Veezhinathan
Director, IITM

Dean's Message



Prof. Mahesh Panchagnula

Dean, Alumni & Corporate Relations, IITM

Greetings!

I express my heartfelt gratitude to you for your generous support to IIT Madras. We appreciate your passion in supporting the causes you do and I assure you that your contributions will be optimally utilised. This report has been compiled to convey how your largesse has touched lives and made a difference at IIT Madras. In keeping with the rapid, contemporary strides in science, technology we have set ambitious goals for ourselves - your continued enthusiasm and support will help us greatly in these endeavours.

IIT Madras is far more diverse in its set of pursuits, more green and more research-focused. And yet, it remains unchanged over these years, it is still the best Institute in the country, and attracts the best students that India has to offer to come and make a mark. I also cordially invite you to visit your campus to see for yourself, the impact of your contribution, and the growth and transformation the Institute has undergone over the years.

We can never express our gratitude enough for all that you have done - Thank You !



Shri T.T. Jagannathan

[1970/BT/ME]

Shri T.T. Jagannathan graduated with a B. Tech in Mechanical Engineering from IIT Madras in 1970, followed by an MS in Operations Research and Business Management from Cornell University, Ithaca, New York in 1972. Apart from being a gold medallist, he was also awarded the President's Prize and the Banco Foundation Prize at IITM for the best academic record in Mechanical Engineering. He was conferred the **Distinguished Alumnus Award** by IIT Madras in July 1996.

The report will present a thorough assessment of the impact that your contributions have made towards the causes outlined below:

TTK Merit Cum Means Scholarship Endowment

CAUSES CONTRIBUTED

1970 Batch Golden Reunion - Prof. M S Ananth Endowment Fund

T.T. Jagannathan Auditorium

TTK Merit Cum Means Scholarship Endowment

The following students benefitted through the TTK Merit Cum Means Scholarship. Please find the gratitude note from the beneficiaries of this scholarship.



Vana Tarun Kumar

EE20B147

"I am incredibly grateful for the generous scholarship you have bestowed upon me. It has been a tremendous relief to pursue my dreams without the constant worry of overwhelming student loans. Your belief in my potential has ignited a renewed sense of determination and commitment to succeed. I cannot express enough how truly thankful I am for your unwavering support. Your scholarship has left an unforgettable mark on my educational journey, and I am deeply honoured to have been chosen as a recipient."



Mrunmayee Sanjaykumar Dhonde

PH20B007

I am Mrunmayee Sanjaykumar Dhonde, a recipient of the MCM Scholarship. I want to express my heartfelt gratitude for the Merit Cum Means Scholarship you awarded me. This scholarship has made a big difference in my education. It has allowed me to pursue my studies without financial worries and has motivated me to do well. It has also opened doors to various learning opportunities such as academic programs, workshops, and extracurricular activities, which have enriched my knowledge and honed my skills.

I am truly grateful for your belief in my abilities and your dedication to empowering students. Your support has made a significant impact on my life, and I am committed to making the most of this opportunity. I promise to work hard, persevere, and make a positive difference.

Thank you once again for your belief in my potential and for making a difference in my future."

T.T. JAGANNATHAN AUDITORIUM NAMING RIGHTS

The naming rights endowment is used for the following:

- 1 Maintenance of T.T. Jagannathan Auditorium
- 2 Furthering Research @ IIT Madras
- 3 Supporting TTK Centre for R2D2

T.T. Jagannathan Auditorium

The T.T. Jagannathan Auditorium is an emblematic venue, serving as the prestigious backdrop for a wide array of distinguished events that epitomise the essence of IIT Madras. Renowned for its exceptional ambience, it is the most coveted space for hosting impactful lectures, engaging workshops, insightful conferences, inauguration, enlightening symposia, and heart-warming reunions. Throughout its history, the Auditorium has witnessed numerous momentous occasions, including Alumni Days and Reunion Days, leaving a profound and unforgettable impact on its attendees.



Shri Dharmendra Pradhan, launching 'Strategic Plan' book at T.T. Jagannathan Auditorium – Sept 19, 2022



Shri Nirmala Sitaraman inaugurating National Center for Precision Medicine in Cancer during CSR- Dec 18, 2022

Tamil Nadu Chief Minister inaugurates IIT Madras initiative to connect 1 Lakh Govt. school students to Electronic Sciences – Apr 5, 2023



Prof. V. Kamakoti, Director, IIT Madras, exchanging MoU with Hon'ble Chief Minister M K Stalin and Thiru Anbil Mahesh Poyyamozhi, Hon'ble School Education Minister



Shri Thiru Anbil Mahesh Poyyamozhi, showcasing the electronic kit



Hon'ble Chief Minister MK Stalin distributing the electronic kits to students- Apr 5, 2023



Inauguration of the School of Medical Sciences and Technology and launch of B.S. Programme in Medical Science and Engineering in Chennai. May 11, 2023

Furthering Research @ IIT Madras

The New Faculty Initiation Grant is provided for the new faculty members to help them kick start their research in the institution. It will aid them to meet their various research initiatives. The institution encourages the new faculty members to do their research by providing grant which is donated by the distinguished alumni of the institution.

This grant is helpful to the new faculty in various ways like purchase of equipment, travel expenses related to the research, purchase of software, experimental expenses, future progress of the research, future research programs etc. Many such research of social importance are carried out with this grant which will create a great impact on society.

Grantees of the Scheme:



Dr. Pinosh Kumar Hajoary

Management Studies

Title of the Project:

Strategic Response to Industry 4.0 – An Empirical Analysis using the TOE Framework

Brief Objectives of the Research:

To examine and identify critical success factors that influence the adoption of advanced production technologies as part of the Industry 4.0 strategy

Highlights of the Scheme's utility towards the research:

The grant has provided me to set up an office and buy accessories to begin my research. In the future, it will help me to present my research work to a larger audience in conferences and seminars.

"Thank you so much for your generous contribution to IITM's new faculty. Through your donation, I have started my research work at IITM. Your generosity and support will make a huge difference in my future research endeavours."



Dr. Rohit Batra

Metallurgical and Materials Engineering

Title of the Project:

Accelerating Materials Discovery using Computations and Machine Learning

Brief Objectives of the Research:

Combine physics-based materials simulation with machine learning methods to:

- Design high conducting polymer electrolytes for Li-ion batteries
- Discover b-sheet forming peptide sequences for catalysts applications.
- Develop fully autonomous materials lab with no human intervention.

Highlights of the Scheme's utility towards the research:

This grant is extremely helpful in getting me started at IITM as I have used it to buy necessary computational software to kick start my research. This is especially true when no other source of fund is available immediately for a new faculty. I still have a good portion of this grant left which I am planning to combine with other grants to purchase lab equipment for the projects mentioned above.

"My sincere thanks for this great initiative. Personally, this grant has really helped me kick start my research at IITM, especially when new faculty members wait for several months for the money to arrive from other sources. Appreciate you help and wish that this effort is continued"



Dr. Kundanati Lakshminath

Applied Mechanics

Title of the Project:

Bioinspired surface textures for tuning friction

Brief Objectives of the Research:

- To develop novel laser-textured surfaces that are inspired by nature and enable tuning the friction in mechanically interacting surfaces.
- Test the laser textured surfaces for evaluation of the friction characteristics.
- Based on preliminary analysis, a few patterns will be selected to laser texture and thoroughly evaluate them for intended application.

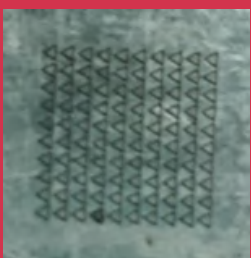
Highlights of the Scheme's utility towards the research:

As the funding was provided right after joining, it enabled me freely to carry out some of the early planned research work.

The preliminary results also shed some light on the possible directions in designing a long-term research project.

"I am grateful for receiving this initial grant which helped in kick-starting some research work."

Bioinspired laser textures created on steel surface which were tested for friction characteristics.



Dr. Shivananju B N

Electrical Engineering

Title of the Project:

2D Material based Ultrasensitive and Ultrafast Optofluidic Device for Early Cancer Detection.

Brief Objectives of the Research:

In this project, we would like to develop ultrasensitive, ultrafast, and highly tumour specific miRNA detection technology based on 2D material coated optofluidic device for early cancer detection. 2D material based optofluidic device will be fabricated and placed in optofluidic channel. The solution of tumour specific miRNA will be injected into the optofluidic channel. The transmitted light will be detected by using high-performance optical spectrometer and digital optical oscilloscope.

Highlights of the Scheme's utility towards the research:

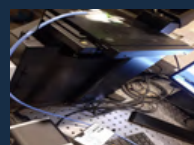
Key utility of the equipment:

Absorption measurement: Estimation of trace elements in biological fluids and chemical solutions etc.

Fluorescence (bio/photo-luminescence) monitoring: Tracking of luminescent biomarkers (tumor cells) in biological environments to distinguish from various biological matter.

Spectrum monitoring: Capturing the spectral content of any light source both in intensity and wavelength terms.

Characterization of Proteins: To identify the photo-response of any protein (biomolecule) in order to monitor biological functions.



Thank you so much for the funding support. We have used the funding to purchase OCEAN HDX miniature Optical Spectrometer which plays an important role to carry out proposed experiments.



Dr. Keerthana Kirupakaran

Civil Engineering

Title of the Project:

Fracture and fatigue behavior of textile reinforced concrete (TRC)

Brief Objectives of the Research:

- To experimentally investigate the fracture behavior of TRC under static and fatigue loading
- To characterize the fracture behavior using digital image correlation and acoustic emission techniques.
- To develop analytical and numerical models to simulate the fracture behavior of TRC

Experimental setup: Testing of TRC specimen under three-point bending configuration.



Highlights of the Scheme's utility towards the research:

NFIG is used for the following activities:

- Purchase of consumables for experimental work.
- Attended and presented my research at the 4th Structural Integrity Conference and Exhibition (SICE) at IIT Hyderabad. Travel, registration, and accommodation expenses were covered by this grant.

"I want to express my heartfelt gratitude for your contribution to NFIG. This grant is very helpful for new faculty to immediately start off with the research work. The process of writing a proposal and getting the funds is at least a year-long process. However, I availed NFIG within the initial few months of my joining and it really helped me plan some preliminary experimental work with my student. Thank you for your generosity, I am truly grateful for your investment in our research and look forward to making a lasting impact in our field."

Introduction

R2D2, the TTK Center for Rehabilitation Research and Device Development at IIT Madras, is a pioneering research group led by Prof. Sujatha Srinivasan from the Department of Mechanical Engineering. Established in 2015, R2D2 focuses on advancing human movement research and specialises in the design and development of rehabilitation and assistive technologies for individuals with movement impairments and locomotor disabilities.

The impact of R2D2 extends beyond research and development. The centre has successfully transferred its technological innovations to like-minded industrial partners, including its startup venture, NeoMotion. This collaboration facilitates the production and distribution of R2D2's assistive products, bringing them to a broader market and making a tangible difference in the lives of individuals with movement impairments.

1. Arise Standing Wheelchair:



'Arise', the standing wheelchair, was launched in the presence of Union Minister of Social Justice and Empowerment Thawarchand Gehlot at the institute on Nov 5, 2019

The Arise Standing Wheelchair, launched in 2019, provides a transformative solution for individuals with mobility impairments. This ground-breaking product, designed and developed at R2D2, has revolutionised the lives of individuals with mobility challenges. The Arise Standing Wheelchair enables users to stand and offers newfound independence and improved quality of life. We were honoured to have the esteemed presence of the Hon'ble Union Minister of Social Justice and Empowerment, Shri Thaawarchand Gehlot, at the launch event, which further highlighted the significance of this achievement.

With the valuable support for commercialisation from the Welcome Trust, the Arise Standing Wheelchair will be manufactured and marketed by Phoenix Medical Systems, founded, and run by Mr. Sashi Kumar, an alumnus of IIT Madras. This collaboration ensures that the benefits of this ground-breaking technology reach individuals not only in India but also beyond its borders.

2. NeoMotion's NeoFly and NeoBolt:



Man playing javelin throw with the help of Neo fly

NeoMotion, another venture from R2D2, focuses on personalized mobility solutions. NeoFly, a compact and personalised wheelchair, caters to the user's specific health and lifestyle requirements. With enhanced distance coverage per push, manoeuvrability in narrow spaces, and features for skin care and stability, NeoFly offers a stylish and functional solution.

NeoBolt, an add-on to NeoFly, enables a seamless transition to an outdoor mobility device. With its rugged design and suitability for various terrains, NeoBolt empowers users to commute independently to work, college, or the market. Including features like a rechargeable battery, digital dashboard, horn, and reverse capability ensures a comprehensive and convenient mobility experience.

3. Kadam Knee Prosthesis:



Demonstrating Kadam, India's first indigenous polycentric Prosthetic knee, on 9 April 2022

Developed under the Make in India campaign, Kadam is India's first indigenously developed four-bar knee prosthesis. This innovation, a collaboration between R2D2 and the Society for Biomedical Technology (SBMT), aims to improve the mobility and quality of life for above-knee amputees.

Kadam's key features, such as customisable stability adjustment, frictional swing control, and a patented four-bar geometry, provide users with better control, stability, and durability even on uneven terrains complying with ISO 10328 standards, including 30 lakh cycles of fatigue testing. Extensive user trials conducted at Mobility India in Bangalore have validated the effectiveness and durability of this groundbreaking assistive technology.

4. PLUTO Hand Rehabilitation Device:

PLUTO, a low-cost hand-neuro-rehabilitation device, targets individuals with neurological and musculoskeletal conditions such as stroke, arthritis, cerebral palsy, and Parkinson's disease. Developed in collaboration with the Department of Bioengineering at Christian Medical College, Vellore, PLUTO provides gamified therapy to restore hand functions. By incorporating biofeedback and remote monitoring capabilities, PLUTO offers an effective and accessible solution for individuals seeking hand rehabilitation.

5. Body-Motion Wheelchair:

The Body-Motion Wheelchair presents an alternative mechanism for wheelchair operation, specifically catering to individuals with limited fine motor control, such as those with cerebral palsy, muscular dystrophy, or spinal cord injuries. By detecting gross body motions, this wheelchair allows users to control movement using various body parts like the head, trunk, hand, or leg. The device's flexibility and customisation options enable individuals to utilise their specific abilities, providing therapeutic benefits while promoting mobility and independence.

6. Saathi Walker::

The Saathi Walker is designed to aid children with cerebral palsy, providing a device that seamlessly integrates into their day-to-day life. Through five prototype versions and a user-centric design, the Saathi Walker offers customisable features, including sit-to-stand functionality aided by a gas spring and height adjustability. By addressing the challenges faced by children with cerebral palsy, the Saathi Walker promotes community participation and active engagement.

7. Optimus All-terrain Wheelchair::

The Optimus All-terrain Wheelchair, developed by Saish Kapadi with support from Rajesh and Sandilya Bharathi, offers a manual lever-operated solution for outdoor use in rough terrains. By utilising locally available bicycle parts, this wheelchair ensures affordability, easy repairability, and foldability for convenient transportation. With a focus on stability, manoeuvrability, and safety, the Optimus All-terrain Wheelchair enables users to navigate challenging environments while maintaining control and independence.

8. 'Sports 4 All' event:



The 'Sports 4 All' event organised by the IIT Madras aimed to promote sports and games among individuals with disabilities. The event, held in conjunction with the International Day for Persons with Disabilities, saw the participation of 580 people from different parts of the country, including caregivers, the public, and volunteers. The objective was to introduce sports and games to individuals with disabilities, provide them with innovative assistive devices, and emphasise the importance of sports in their lives. The event's collaboration with various organisations, including the National Institute for Persons with Multiple Disabilities and Decathlon, demonstrated the collective effort towards inclusivity and accessibility for individuals with disabilities. Through inclusive gross motor activities and sports, participants were provided opportunities to improve their physical and mental well-being, fostering inclusiveness and equal participation.

IIT Madras officials with players during 'Sports Carnival' Dec11, 2022



The R2D2 lab at the IIT Madras had the privilege of hosting Hon Stephen Dawson MLC, Minister for Emergency Services; Innovation and the Digital Economy; Medical Research; Volunteering, Western Australia. His presence and engagement demonstrate the Government of Western Australia's recognition of the importance of our work in the field of rehabilitation and assistive technologies.

Hon Stephen Dawson MLC, Minister for Emergency Services; Innovation and the Digital Economy; Medical Research; Volunteering, Western Australia, along with R2D2 team. Apr 2023

1970 Batch Reunion - Prof. M S Ananth Endowment Fund



Prof. M. S. Ananth

Prof. M. S. Ananth Endowment Fund was established to honor Prof. M. S. Ananth, who served as the Director of IIT Madras from 2001 to 2011. He was well-known for his contributions to science and teaching, as well as his tireless efforts to develop higher education and research in India. 1970 batch contributed towards this endowment and the interest accrued from this endowment is used to support the following activities:

- To support socially relevant projects.
- To support the educational needs of the children of staff members of self-help organizations who work on the IITM campus.

1. Socially Relevant Projects:

Total no of projects accomplished over the years

Year	No of Projects
2019	7
2020	5
2021	6
2022	4

Snippets of the projects:

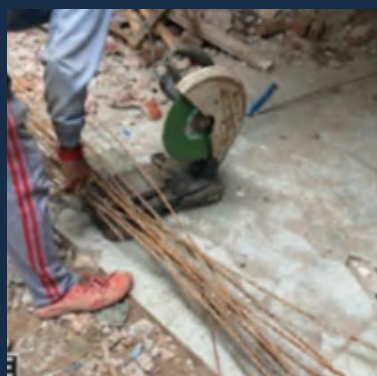
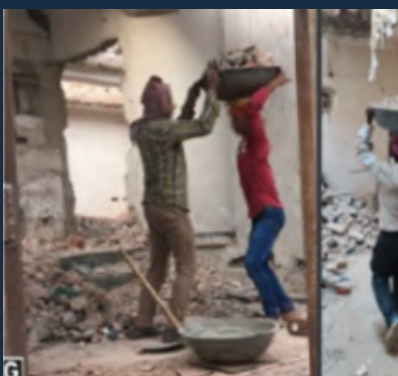


Prof. Nikhil Bugalia
Dept. of Civil Engineering

Project name: Construction and Demolition (C&D) Waste Management and the Role of the Informal Unorganized Sector in India: Case of New Delhi

The objective of the project: Identifying early-stage demolition projects in different parts of the City and various stakeholders involved in the identified projects to understand their roles in an informal/formal C&D waste management system through interviews.

Result: Results indicate significant environmental and economic benefits contributed by the informal sectors as they engage in deconstruction, salvaging several materials otherwise considered waste, and adding value to the formal recycling process through their selective demolition practices.





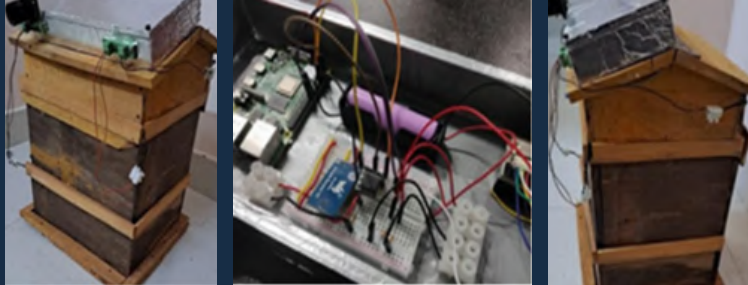
Project name: Tracking Beehive Health Using IoT Technology

The objective of the project: The objective of the work is to build an IoT-based tracking system to monitor the health of a beehive.

Result: It helps minimize manual inspection of the beehives so that beekeepers can handle a larger number of beehives at the same time, which can improve their income level.

Prof. Madhu Mutayam

Dept. of Computer Science Engineering



Project name: Farmer-friendly, point-of-use, portable heavy metal sensors with cell phone interface: A new technical aid for the agricultural sector

The objective of the project: Analyzing water quality and heavy metal presence in water samples collected from several temple tanks in Rameswaram, Tamil Nadu using the ICP-OES facility at SAIF- IIT Madras.

Result: The project is aimed at helping farmers and agricultural cooperatives to decide on soil quality, by measuring soil salinity and heavy metal presence detection, so that they can sow crops in the right location and maximize crop yields

Prof. Sreeram K. Kalpathy

Dept. of Metallurgical and Materials Engineering



Project name: : Community Screening of "Kasimedu fisherwomen" for cervical cancer using a self-sampling kit and an indigenous innovative detection device

The objective of the project: This project is aimed at a community screening of cervical cancer in Kasimedu fisherwomen and the detection of an HR-HPV in these women by using an indigenous detection device (developed at IITM).

Result: Fabrication of point of care device for detection of HR-HPV and continuous field work – community screening by enrolling more women into the cervical cancer screen.

Prof. Rayala Suresh Kumar

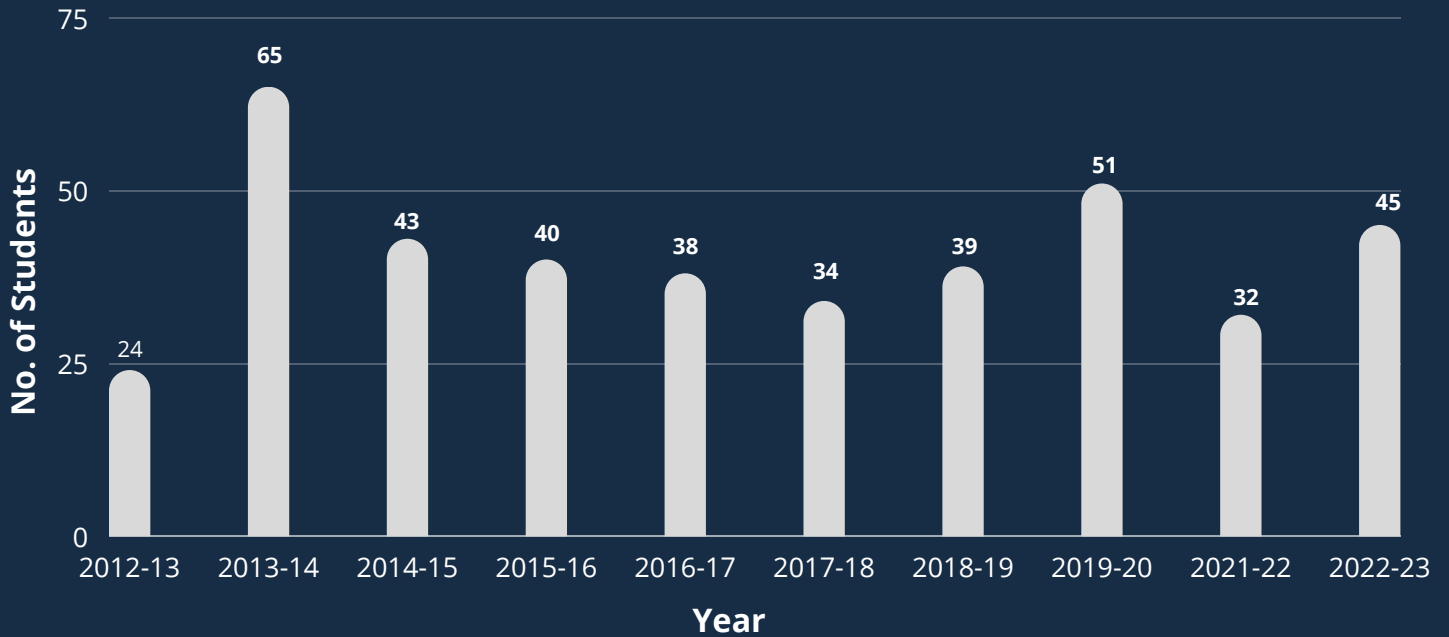
Dept. of Biotechnology

	Disease	No Disease
Test Positive	2(TP)	0(FP)
Test Negative	0(FN)	98(TN)
Total	2	98

2. Support to children of staff members of the self-help organization who work in IITM:

The below graph depicts the number of students who have reaped the benefits.

Statistics from 2012 - 23



In 2022, 45 children of the IIT Madras campus Self-Help group staff have been given support to their tuition fees through this scheme.

Gratitude Note from some of the beneficiaries:



R Karthikeyan

Respected Mam
I am Karthikeyan.R son of Abirani .You've gave a yearly fee that is help for my studies .so I was able to concentrate with my studies perfectly .and also fees is not pending so thanku for your help very much . and also I am very happy . and thanku for all support.
Thanking you
by
R. KARTHIKEYAN



Nitish and Sharmila

சார் :
எனது அன்பு குழந்தைகள் அனைவருக்கும் அன்பளைய செய்து
Y. சித்ராவிடம் 500 ரூபாய் வழங்கினார். அன்பளைய செய்து
அந்தளவு 500 ரூபாய் வழங்கினார். நன்றியைத் தெரிவித்து
500 ரூபாய் அன்பளைய செய்து. அன்பளைய செய்து
நன்றி தெரிவித்து நிதி அமைச்சுக்கு நன்றி தெரிவிக்கிறேன்.
சித்ராவிடம்
Y. சித்ரா



K. Dhanush Kumar

Good morning maam .
I am k channamma's son .
Thank you so much maam for giving us money .
It has helped us .
We will be always thankful to you maam
We will never forget this .

To read more feedback



We are grateful to you & your family

Shri T.T. Jagannathan & Family



Thank you for your sustained generosity to IIT Madras over the years. Contributors such as yourself enable our students and Professors to dream big and work towards a better and brighter future. We hope you are proud of your alma mater and how it has remained steadfastly committed to academic and research excellence during and after your time here. You and your family have been instrumental in facilitating this significant growth.

Our efforts to nurture the culture of academic excellence that is the hallmark of IIT Madras - quality education, cutting-edge research, and unfettered creativity - shall continue. We are privileged and humbled to have you and your family walking with us along this trail. We wish you and your family the best always in all walks of life!



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